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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,284	10/26/2001	Lowell L. Wood JR.	10591/3	9631

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EXAMINER	
LEE, DAVID J	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,284	WOOD ET AL.	
	Examiner	Art Unit	
	David Lee	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,80 and 81* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,80 and 81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/1/2005 have been fully considered but they are not persuasive.

Applicant argues that "the set of at least one optical beam-deflector is not an element of either the downstream client unit or the upstream client unit." However, it is noted that this limitation upon which applicant relies are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In addition, the claim recites in part that each optical beam-deflector is "dedicated to the respective optical circuit on a semi-permanent basis." This statement provides support for examiner's view in that the beam deflector's can be structurally integrated with the client/master units. Furthermore, the client unit of Cheng comprises a receiver, a photodetector, and a demodulator and the master unit comprises a source, a modulator, and a beam director. This would mean that the beam deflectors (48 and 74 of fig. 2) are not part of the client/master units, but rather, they are positioned between the client and master units such that the optical signal travels through it as the signal passes from the master to the client unit.

Applicant also argues that the steering mirror assembly of Cheng is not an "optical beam-deflector" and that the limitation in the instant claims are inherently clear and distinct in light of the wording of the claim and the definition of terms in the specification. First, applicant is reminded that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). In addition, the limitation recites no specified function or distinction of the beam-deflector as claimed. The mirror assembly of Cheng therefore can be reasonably interpreted to read upon the term "beam-deflector" in that it deflects the light beam allowing it to travel in a different direction.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6, and 81/1 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng et al. (US Pub. No. 2004/0141754 A1).

Regarding claim 1, Cheng teaches an optical communications system (fig. 1) comprising at least one optical circuit (fig. 1), each optical circuit comprising: a set of at least one downstream client unit (fig. 1: the optical circuit 30 on the right will be considered as the downstream client unit), each client unit comprising: an optical receiver which accepts an incoming optical signal (64 of fig. 2); a photodetector associated with the respective optical receiver and responsive to electromagnetic radiation accepted by it (90 of fig. 3); a demodulator associated with the respective photodetector (102 of fig. 3); a set of at least one upstream master unit (fig. 1: the optical circuit 30 on the left will be considered the upstream master unit), each master unit semi-permanently optically coupled to the respective client unit, each master unit

comprising: an optical source operative to generate an optical signal characterized by a free-space wavelength less than about 10 micrometers (110 of fig. 4; paragraph 0031); a modulator operative to modulate the respective optical signal (112 of fig. 4); an optical beam director associated with the respective optical source and operating to direct the respective optical signal into free-space (72 of fig. 2); a free-space air-path through which optical radiation from the master unit travels before arriving at the client unit (through 42 of fig. 2); and a set of at least one optical beam-deflector through which the optical signal from at least one master unit travels before arriving at the respective client unit, each optical beam-deflector dedicated to the respective optical circuit on a semi-permanent basis (48 and 74 of fig. 2).

Regarding claim 2, Cheng teaches an optical communications system (fig. 1) comprising at least one optical circuit (fig. 1), each optical circuit comprising: a set of at least one downstream client unit (fig. 1: the optical circuit 30 on the right will be considered as the downstream client unit), each client unit comprising: an optical receiver which accepts an incoming optical signal (64 of fig. 2); a photodetector associated with the respective optical receiver and responsive to electromagnetic radiation accepted by it (90 of fig. 3); a demodulator associated with the respective photodetector (102 of fig. 3); a set of at least one upstream master unit (fig. 1: the optical circuit 30 on the left will be considered the upstream master unit), each master unit semi-permanently optically coupled to the respective client unit, each master unit comprising: an optical source operative to generate an optical signal characterized by a free-space wavelength less than about 10 micrometers (110 of fig. 4; paragraph 0031); a modulator operative to modulate the respective optical signal (112 of fig. 4); an optical beam director associated with the respective optical source and operating to direct the respective optical signal

into free-space (72 of fig. 2); a free-space air-path through which optical radiation from the master unit travels before arriving at the client unit (through 42 of fig. 2); and means for automatically orienting at least one optical element selected from the group consisting of: the set of optical beam directors and the set of optical receivers, thereby delivering the optical signal along the free space air-path between the respective master unit and the respective client unit (fig. 2: beam directors 74 and 48 controlled by controller 52).

Regarding claim 3, Cheng teaches means for automatically orienting at least one optical element selected from the group consisting of: the set of optical beam directors, the set of optical receivers, and the set of optical beam-deflectors, thereby delivering the optical signal along the free-space air-path between the respective master unit and the respective client unit (fig. 2: beam directors 74 and 48 controlled by controller 52).

Regarding claim 4, Cheng teaches that each upstream master unit comprises a respective first optical transceiver (the upstream master unit of fig. 2 comprises both receiving and transmitting functions, 64 and 70); wherein each downstream client unit comprises a respective second optical transceiver (the downstream client unit of fig. 2 comprises both receiving and transmitting functions 64 and 70); wherein each first optical transceiver comprises the respective master unit optical source (110 of fig. 4), modulator (112 of fig. 4) and optical beam director (72 of fig. 2) in combination with the following additional elements: a master unit optical receiver which accepts a respective incoming optical signal (64 of fig. 2); a master unit photodetector associated with the respective master unit optical receiver and responsive to electromagnetic radiation accepted by it (90 of fig. 3); and a master unit demodulator associated with the respective master unit photodetector (102 of fig. 3); and wherein each second optical transceiver

comprises the respective client unit optical receiver (64 of fig. 2), photodetector and demodulator (90, 102 of fig. 3) in combination with the following additional elements: a client unit optical source operative to generate a respective client unit optical signal characterized by a free-space wavelength less than about 10 micrometers (110 of fig. 4; paragraph 0031); a client unit modulator operative to modulate the respective client unit optical signal (112 of fig. 4); and a client unit optical beam director associated with the respective client unit optical source and operating to direct the respective client unit optical signal into free space (72 of fig. 4).

Regarding claim 6, Cheng teaches the set of optical beam-deflectors comprises at least two optical beam-deflectors located together in a relay station (74 and 48 of fig. 2); and wherein the relay station comprises a shared mechanical housing (inside communication terminal 30 of fig. 1), a shared power supply and a shared command-control-communication system for the at least two optical beam-deflectors in the master station (paragraph 0023; 84 and 87 of fig. 2).

Regarding claim 81/1, Cheng teaches that the modulator for the optical source is coupled with and responsive to an Internet connection (the system of fig. 1 can be considered Internet, and data is modulated and transferred across it).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Lohr et al. (US Pub. No. 2003/0156843 A1).

Regarding claim 5, Cheng teaches the limitations as applied to claim 1, but does not specifically disclose that the set of master units comprises at least two master units located together in a master station; and wherein the master station comprises a shared mechanical housing, a shared power supply, and a shared command-control-communication system for the at least two master units in the master station. However, it is well known in the art to use more than one master unit in a master station. For example, Lohr discloses a free space optical transmission system (paragraph 0004, and fig. 2) with a master station (20 of fig. 2) comprising two master units (22 and 24 of fig. 2). One of ordinary skill in the art would have been motivated to use more than one master unit in a master station in order to increase capability and versatility in the transmission of signals. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate two master units in a master station in the system of Cheng. Also, it would have been obvious to one of ordinary skill in the art at the time of invention to share the housing, power supply and CCC system of the master units in order to provide simplicity, lower maintenance and cost efficiency.

6. Claim 80/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng.

Regarding claim 80/1, Cheng teaches the limitations as applied to claim 1 but does not expressly disclose that the optical power of the source is less than about 5 milliwatts. However, it would have been obvious to one of ordinary skill in the art at the time of invention to set the power to be less than 5 milliwatts in order to provide a safer transmission system.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lee whose telephone number is (571) 272-2220. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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